Lab Template

Text: Cord
Volume: Green Book Unit number: 16 Title of unit: Solving Problems that involve linear equations.
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Attach the Following Documents:

1. **Lab Instructions**
2. **Student Handout(s)**
3. **Rubric and/or Assessment Tool**

Short Description (Be sure to include where in your unit this lab takes place):

Near the end of the Linear Equation Unit, we do this lab to check for understanding. Students are able to work together to gather data on the correlation between the height that a ball is dropped from and the height of the first bounce. Then, students compare their information with a different type of ball to see if their line of fit changes. This allows students to use cooperative learning, while checking individual work for understanding.

Follow the Bouncing Ball

LAB PLAN

TEACHER: *(Teacher Prep/Lab Plan)*

- **Lab Objective – Students will work collaboratively with individual summaries. Students will summarize knowledge about direct variation through an activity.**
- **Statement of prerequisite skills needed** *(Vocabulary, Measurement Techniques, Formulas, etc.)Students must be familiar measuring in inches, calculating slope, understanding y intercept, writing equations in slope intercept form, writing equations in standard form.*

- **Vocabulary – Slope, y intercept, standard form, slope intercept form, line of fit, axis, graph**

- **State Standards addressed:** *(Highlight "Green" Standards, you may use your District's Power Standards if applicable)*
  - **Math:** A.1.4.C – Partial – Identify and interpret the slope and intercepts of a linear function, including equations for parallel and perpendicular lines.
    A.1.4.B – Write and graph an equation for a line given the slope and the y-intercept, the slope and a point on the line, or two points on the line, and translate between forms of linear equations.
    A.1.6.B - Make valid inferences and draw conclusions based on data.

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- **Reading:**
- **Writing: 3.3 – Knows and applies writing conventions appropriate for the grade level.**
- **Leadership: Students work together to collect data.**
- **SCAN Skills/Workplace Skills:**

- **Teacher Preparation:** *(What materials and set-up are required for this lesson?)*
  - Materials: Tennis balls, racquet balls, super ball, golf balls, or any other ball that bounces, yardsticks or measuring tape, student handout

  - Set-Up Required: Put materials in groups.

- **Lab Organizational Strategies:**
  - Grouping/Leadership/Presentation Opportunities: Working together allows this to occur.
  - Cooperative Learning: Working in groups of three, with individual learning assessed as well.
  - Expectations: Students will work together in groups to gain their data, and then work individually to complete their work.
  - Time-line: Two day project from start to finish.

- **Post Lab Follow-Up/Conclusions** *(to be covered after student completes lab)*
  - Discuss real world application of learning from lab: Careers needing precise measurements, places that have a slope (constant rate of change). Where do you see a constant rate of change?
  - Career Applications: Measuring,

  - Optional or Extension Activities: Stairway Hall of Fame!!!! What about extra bounces?